

## **Code 923 Biospheric Sciences Branch Highlights for Sept. –Oct. 2002**

### **\*\* Second Volume of SAFARI 2000 CDROM Series is completed**

The second volume of the SAFARI 2000 CDROM Series has been completed and is currently being mass-produced (500 copies). The 5-disc volume largely focuses on the SAFARI Dry Season (Aircraft) Campaign in August/September 2000 and the data needed to support studies on aerosol sources, transport, transformations and deposition. Much of this data is value-added and unavailable elsewhere, including products from MODIS land and atmosphere teams (packaged as flat binary), a subset of meteorological fields from the GSFC DAO, and data from various aircraft and ground-based sensors. This volume interacts seamlessly with Volume 1. The CDs will be distributed in October at the SAFARI workshop at the Univ. of Virginia. Thereafter, copies will be available through the Oak Ridge National Laboratory DAAC. SAFARI is interdisciplinary science activity designed to develop a better understanding of the southern Africa earth-atmosphere-human system. Programmatically, it serves as an organizational umbrella to maximize the overall efficiency and effectiveness of various environmental studies in the region. Interested persons may check the online-version of the CDROM at: [http://ltpwww.gsfc.nasa.gov/s2k/html\\_pages/s2k\\_home.html](http://ltpwww.gsfc.nasa.gov/s2k/html_pages/s2k_home.html).

### **\*\* Deep Space and Lunar Calibration Briefings**

The EOS Terra and Aqua science teams have called for a series of a pitch over maneuvers to enable their instruments to view deep space and the lunar surface. The CERES instrument needs this maneuver to meet their science requirements, MODIS will use the measurements to characterize the response versus scan angle characteristics to improve and expedite SST validated products. ASTER and MISR on Terra will use the measurements of the stable lunar surface for radiometric characterization and AMSR on Aqua has an interest in viewing deep space to measure the emissivity of the main reflector. The AIRS instrument on Aqua is not in favor of the maneuver. Briefings of a coordinated plan for Terra and Aqua requested by NASA HQ were given to Mr. Townsend at GSFC (August 23) and Mr. Luther at NASA HQ (August 28). The briefings were presented by Angie Kelly and Bob Kozon from the GSFC Earth Science Mission Operations Flight Operations Team. Also in attendance were Paul Ondrus (ESMO Project Manager), Ken Dolan (ESMO Deputy Project Manager), Claire Parkinson (Aqua Project Scientist) and Jon Ranson (Terra Project Scientist). Tom Magner, Code YF Director was also in attendance at the HQ meeting. At the conclusion of the briefing Mr. Luther thanked the presenters and attendees and said a decision will be forthcoming after he discusses the issue with his management.

**\*\* Selections announced for NRA-01-OES-06**

On Sept 9, 2002 selections were announced by NASA HQ for NRA-01-OES-06: "Ecological Research in the Large-Scale Biosphere-Atmosphere Experiment in Amazônia (LBA-ECO): Phase II, and Opportunities in Terrestrial Ecology". Thirty-five proposals were funded out of 97 submitted. Code 923 projects selected for funding are:

- LBA-ECO

Holben, Brent, NASA - Goddard Space Flight Center, Code ,923, Characterization of Aerosol Optical Properties and Solar Flux for LBA-ECO

Morisette, Jeffrey , NASA - Goddard Space Flight Center, Code 922/923, Quantifying the Accuracy of MODIS Fire Products and Establishing their Relationship with Land Cover Dynamics

- Terrestrial Ecosystems

Ranson, K. Jon, NASA - Goddard Space Flight Center, Code 923  
Siberian Forest Ecosystem Dynamics: Disturbance and Succession

**\*\* Middleton presents at Remote Sensing workshop and SPIE symposium**

Dr. Elizabeth Middleton gave an invited talk at a Workshop on Remote Sensing for Agriculture and the Environment (Sept 17-20, 2002), sponsored by the international Organization for Economic and Cooperative Development (OECD) in Kifissia, Greece. Her subject was "Nitrogen stress in corn as detected and monitored by fluorescence and reflectance measurements". She gave a shorter, related presentation at the 9th International Remote Sensing Symposium sponsored by SPIE in Crete, Greece (Sept. 23-27), entitled "Optical and fluorescence properties of corn leaves from different nitrogen regimes".

**\*\* Draft Request for Proposals Released for Landsat Data Continuity Mission Implementation:**

NASA released a draft Request for Proposals (RFP) for the implementation of the Landsat Data Continuity Mission (LDCM) on October 7th. The purpose of the release was to solicit comments on the draft RFP. A brief chart package providing an overview of the LDCM implementation strategy can be found at the NASA LDCM Home Page: <http://ldcm.nasa.gov>. A link to the web site hosting the RFP can also be found at this home page.

**\*\* NEESPI Presentation to Associate Administrator Asrar**

Dr. Don Deering, together with Dr. Hank Shugart of the Environmental Sciences Department at the University of Virginia, gave a presentation on the NEESPI project to

Dr. Ghassem Asrar, Associate Administrator for Earth Sciences at NASA Headquarters on Wednesday, October 16, 2002. The Northern Eurasia Earth Science Partnership Initiative is a planning strategy that has the long-range goal of establishing a large-scale, interdisciplinary program of funded research aimed at developing a better understanding of the interactions between the ecosystem, atmosphere, and human dynamics in northern Eurasia in support of international science programs with particular relevance to global climate change research and which addresses the concerns that face national and international decision-makers of the partnering institutions and countries. The principal objectives were to inform Dr. Asrar of the developments in the planning process and secure his permission to establish "formal agreement between NASA and the Russian Academy of Sciences (RAS) that would officially recognize their mutual interests in pursuing the development of a science plan directed toward identifying the critical science questions for Northern Eurasia with the intent to collaborate on a program of coordinated research in the region."

The presentation and specific request were positively received by Dr. Asrar, and after some discussion around the table following the presentation with Kate Maliga, Senior International Programs Specialist, Office of External Relations; Leslie Kay, International Programs Specialist, OER; and Jack Kaye, Director, Research Division, Office of Earth Science, the appropriate mechanism for establishing the mutual agreement regarding the NEESPI with our Russian counterpart agency was decided. NASA will endorse the NEESPI with the RAS through a signing of the "protocol" of the Earth Science Joint Working Group Meeting, which will specifically detail the NEESPI and our mutual cooperation in this initiative, in Moscow on October 31, 2002. Drs. Garik Gutman and Diane Wickland, program managers at NASA HQ, were also present at the meeting with Dr. Asrar as well as Drs. Forrest Hall and Jon Ranson from GSFC, Code 923.

Further information about the NEESPI can be viewed at the following Web site: <http://neespi.gsfc.nasa.gov/>.

**\*\* Paper on Hyperspectral Imaging with EO-1 presented by Ungar**

Steve Ungar, EO-1 Mission Scientist, presented an invited paper on "Hyperspectral Imaging with EO-1" at the 31st Applied Imagery Pattern Recognition (AIPR) Workshop on Thursday, October 17. The AIPR Workshop is held annually at the Cosmos Club in Washington, DC. The theme of this year's workshop was "From Color to Hyperspectral: Advances in Spatial Imagery Exploitation".

**\*\* Coastal Research Workshop attended by Biospheric Sciences Branch researchers**

Drs. Betsy Middleton and Jeff Morisette represented 923 at a two-day Coastal Research Workshop held last week (Oct 17-18) at Wallops Flight Facility (WFF). The workshop was attended by about 60 NASA (largely from GSFC & WFF), and other interested scientists. A workshop proceedings is planned, in support of future development of a Coastal Research program.

## **\*\* MISR Radiometric Calibration Review**

A MISR radiometric calibration review was held October 22, 2002 at JPL at the request of the MISR project. The emphasis of the review was on-orbit radiometric performance, particularly the absolute radiometric scale and proposed changes to the MISR data radiometric processing, including a stray light and Point Spread Function (PSF) correction. Goddard participation included Jim Butler, Code 920; Bruce Guenther, UMBC, Code 920 and Brian Markham (review board chair), Code 923.

## **\*\* CEOS/WGCV Land Product Validation Workshop on Surface Albedo**

Boston University hosted the CEOS/WGCV Land Product Validation Workshop on Surface Albedo during 23-24 October, 2002, with participation of 25 international scientists. Participants discussed the challenges of global validation, such as number and distribution of test sites, and the challenges of site-level data collection and scaling. Early studies suggest the mean error in MODIS broadband albedo is about 0.02 (absolute). Among many new ideas, plans were developed to coordinate MODIS subsetting with 230+ field sites in science networks (BSRN, SurfRad, FLUXNET) through an initiative at the ORNL DAAC. The workshop was held in association with the MODIS Radiation Products Outreach Workshop, and marked the fourth LPV topical workshop (following assemblies on Leaf Area Index, Fire/Burn Scar, and Land Cover). The Land Product Validation (LPV) Subgroup of the CEOS Working Group on Calibration and Validation (WGCV) helps coordinate international researchers to help achieve these goals in an effective and globally representative manner. The LPV Subgroup is led by Jeffrey Privette (Code 923) and Jeffrey Morisette (Codes 922/923). Details of the workshop will be available in the EOS Earth Observer. A follow-up workshop will be held in late 2003.

## **\*\* GLOBE Soil Investigation team receives award**

Dr. Elissa Levine and the GLOBE Soil Investigation team (Code 923) have been selected to receive an award for "developing an excellent website for Soil Science education" by the American Society of Agronomy Extension Education Program. The website ([LTPwww.gsfc.nasa.gov/globeindex.htm](http://LTPwww.gsfc.nasa.gov/globeindex.htm)) is an educational resource for teachers, students and the general public for understanding basic concepts about soils and their role in the Earth System.